WHAT IS CLAIMED IS:

Claim 1. A method of determining the presence and amount of beryllium or a beryllium compound in a sample, comprising:

admixing a sample suspected of containing beryllium or a beryllium compound with a dissolution solution for sufficient time whereby beryllium or a beryllium compound within said sample is dissolved;

mixing a portion from said admixture with a buffered solution containing a fluorescent indicator capable of binding beryllium or a beryllium compound to the fluorescent indicator; and,

determining the presence or amount of beryllium or a beryllium compound within said sample by measuring fluorescence from said fluorescent indicator.

Claim 2. The method of Claim 1, wherein the dissolution solution is an ammonium bifluoride solution.

Claim 3. The method of Claim 1, wherein the fluorescent indicator forms a six-member ring with beryllium or a beryllium compound.

Claim 4. The method of Claim 1, wherein the fluorescent indicator is 10-hydroxybenzo[*h*]quinoline-7-sulfonate.

Claim 5. The method of Claim 7, wherein the buffered solution includes a metal chelating agent.

Claim 6. The method of Claim 5, wherein the metal chelating agent is EDTA or a salt of EDTA.

Claim 7. The method of Claim 4, wherein the buffered solution includes lysine.

Claim 8. The method of Claim 5, wherein the buffered solution comprises lysine.

Claim 9. A composition of matter comprising an aqueous solution including 10-hydroxybenzo[*h*]quinoline-7-sulfonate and a buffer with a pK_a between 7 and 13.5.

Claim 10. The composition of matter of claim 9 further comprising a metal chelating agent.

Claim 11. The composition of matter of claim 10 wherein the metal chelating agent is EDTA or a salt of EDTA.

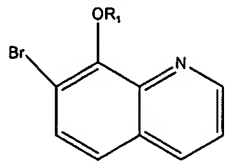
Claim 12. The composition of matter of claim 9 wherein said buffer is an amine buffer.

Claim 13. The composition of matter of claim 12 wherein said amine buffer is lysine.

Claim 14. The composition of matter of claim 10 wherein said buffer is an amine buffer.

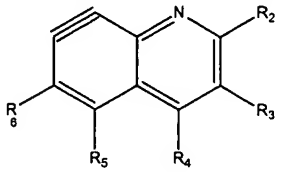
Claim 15. The composition of matter of claim 14 wherein said amine buffer is lysine.

Claim 16. A composition of matter comprising the chemical formula $C_9H_5NBrOR_1$ with the structure



wherein R_1 is selected from the group consisting of tosylate ($CH_3C_6H_4$) and triflate (CF_3SO_2).

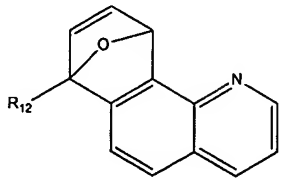
Claim 17. A composition of matter comprising the structure



wherein R_2, R_3, R_4, R_5 and R_6 are each independently selected from the group consisting of hydrogen, an alkyl group having from 1-5 carbons, an aryl group, an alkyl-substituted aryl group having from 1-10 carbons, nitro, an alkoxy group having from 1-10 carbons, a substituted aryl group having nitro substitution, a substituted aryl group having carboxylic acid substitution, a substituted aryl group having phosphoric acid substitution, and a substituted aryl group having azo substitution.

Claim 18. The composition of matter of claim 17 wherein R_2, R_3, R_4, R_5 and R_6 are each hydrogen.

Claim 19. A composition of matter comprising the chemical formula $C_{13}H_8NOR_{12}$ with the structure



wherein R_{12} is selected from the group consisting of hydrogen, $SiMe_3$, an alkyl group having from 1-5 carbons, an aryl, an alkyl-substituted aryl group having from 1-10 carbons, $N(R_{13})_2$, $O(R_{14})$, $C(OR_{15})_2$, $S(R_{16})$, and $Sn(R_{17})_3$ where R_{13}, R_{14}, R_{15}, R_{16} and R_{17} are each independently selected from the group consisting of an alkyl group having from 1-5 carbons, an aryl group, and an alkyl-substituted aryl group having from 1-10 carbons.